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### A Business Newsletter for Agriculture

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**May 2020** 



#### Another year, another crisis

By Chad Hart, extension economist, 515-294-9911, chart@iastate.edu

For the last few years, it seems like agriculture has been running from one crisis to another. In 2018, it was the start of the trade fight with China and the spillover skirmishes with the rest of the world. In 2019, it was the delayed and prevented planting problems across a wide swath of the United States. And in 2020, it is the coronavirus or COVID-19 outbreak. One was political or policy oriented; one was physical or weather-driven phenomenon; and the current crisis is a hybrid

#### **Handbook updates**

For those subscribing to the handbook, the following updates are included.

Understanding Risk in Hedge-to-**Arrive Contracts** – A2-74 (3 pages)

Cash Rental Rates for Iowa Survey - C2-10 (12 pages)

Please add these files to your handbook and remove the outof-date material.

of both. While the virus and its spread are physical phenomena that directly impact agricultural production and consumption, the policy response has also led to significant changes in agricultural markets. The combination has forced most markets significantly lower, created sizable swings in price levels and volatilities, and left many farmers praying for a rebound.

The virus has taken advantage of our human need to interact with each other in order to spread. But those interactions also drive major parts of our economy. We travel for business and pleasure, going to conferences and vacations; we dine out for business lunches and family reunions; and we entertain ourselves in masse, at sporting events and concerts. The public health policy response to the virus has been to create physical distance between individuals in all social interactions, limiting the spread of the virus as best we can. That has led to the shutdown of most of businesses.

a severe curtailment of business and personal travel, and a nearcomplete rescheduling of people's lives. Business transactions and job requirements that could shift to an online environment did, while only those jobs and transactions deemed "essential" continued as close to usual as possible.

Thus, the damage to the demand side of the agricultural markets has been incredible. The closure of restaurants and the shift to significantly more at-home food consumption has driven a severe reworking of our food supply chain. The virus has struck at critical pinch-points in the food supply chain, our processing plants, creating imbalances

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**IOWA STATE UNIVERSITY** Extension and Outreach

Ag Decision Maker is compiled by extension ag economists Ann Johanns, aholste@iastate.edu extension program specialist Another year, another crisis, continued from page 1

between the farm and retail markets. Farm supplies remain large, as over the past few years, farmers and ranchers have produced record amounts of corn, soybean, cattle, hogs, milk, poultry, and eggs. But the ability to translate those supplies to the food items we purchase at grocery stores has been noticeably reduced by COVID-19.

For crops, the impacts can be examined by exploring the three big sources of usage: livestock feed, biofuels, and exports. The impact of COVID-19 on feed usage is mixed. In the short term, feed usage will increase. We had and continue to have a large number of animals in the production chain. The sheer number of animals and the limits on alternative feed

ingredients, such as distillers grains (we'll get to that in a minute), have boosted direct feed usage for corn and soybean. But in the longer run, the constraints at the processing plants are backing animals up, forcing producers to slow their herds and flocks down and reduce future animal numbers. That means less feed demand in the future.

The impacts in the biofuel arena also contribute to the feed storyline. To put it bluntly, COVID-19 has cut the ethanol market in half. The severe reduction of ethanol production also means a severe reduction in distillers grains production. That reduction has forced many livestock producers to rework their feed rations, replacing distillers grains with other feed ingredients. To show how quickly farmers and ranchers have had to adjust, Figure 1 shows the weekly data for corn converted to ethanol (and distillers grains). Over the past couple of years, on average, over 100 million bushels of corn are processed by the ethanol industry. But within the past four weeks, corn processing at ethanol plants has been cut in half. Unlike at meat processing plants where COVID-19 hit the workplace hard, the ethanol plant closures have been driven by economic factors. Oil, gas, and ethanol supplies were at extremely high levels going into the COVID-19 outbreak. The "stay-at-home" and "shelter-in-place" orders, along with the general business shutdowns, drove the need for fuel in the US down to its lowest level in

Figure 1. Corn converted to ethanol



roughly 50 years. The combination of record supplies and minimal demand forced ethanol production to freefall and ethanol stocks to surge to record levels.

As businesses open back up, we can expect travel and fuel usage to increase. But it's still an open question how quickly fuel usage will rebound. Even with some resumption of travel, it will take the ethanol industry some time to work through the ethanol already in storage, before reviving the plant shutdowns. So both feed and fuel usage for corn are still facing tremendous uncertainty from COVID-19 impacts as we plant the next crop.

Exports have been the one usage area that has somewhat resistant to COVID-19. While export sales for both corn and soybean were down, compared to last year, before the coronavirus pandemic, export sales during the outbreak have kept pace or exceeded last year's pace. Corn export sales before the outbreak were already 500 million bushels behind last year's sales pace. The trio of a strong US dollar, weaker global economies, and ample global supplies provided several good reasons for the sales drop. Since then, however, corn sales have perked up, with the gap shrinking to 366 million bushels with the latest weekly export sales report. Figure 2 outlines the sales changes this year. While most corn markets are still in negative territory, the numbers have been moving towards zero. With the signing of the Phase 1 trade deal with China, China

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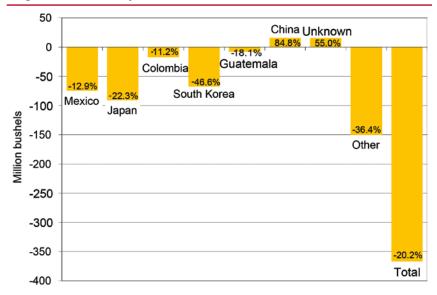
has emerged as a growth market for US corn. Currently, China is our 6th largest buyer of corn, up 85% from last year. We have also seen some gains in smaller corn markets, represented by the "Other" bar in the graph. That bar was down nearly 80% a few weeks ago, recovering to down 36% now.

Soybean export sales have been treading water during the coronavirus outbreak, as total sales have remained around 225 million bushels behind last year's pace. But this week's sales report does show China and Egypt are starting to be more aggressive buyers. While China captures the lion's share of attention in the soybean market, it's the move by Egypt that caught my eye. Egypt tends to move in and out of ag markets to take advantage of low price opportunities (think of them as Walmart shoppers, following Walmart's old slogan "Always Low Prices"). Well, US soybean prices have moved low enough to stir up some international demand.

Putting this all together, futures prices at the end of April pointed to the following. For the 2019-2020 crops, previous sales during the fall and winter are now being undercut by sales this spring following COVID-19. The 2019-2020 season-average price estimates currently stand at \$3.52 per bushel for corn and \$8.55 per bushel for soybeans. New crop price estimates started the year near \$4 for corn and \$9.50 for soybeans. Now, corn is basically at breakeven (ISU

corn production cost estimate was \$3.32 per bushel) and soybeans has slipped well below breakeven at \$8.31 per bushel (Iowa State University soybean production estimates was \$8.72 per bushel). I think the first chance to regain some of that lost profitability will come later this month or early next month. Seasonally, mid-June is when we tend to see our highest prices. Also, if the partial reopening of the economy can continue, that could provide some additional lift then.

Figure 2. Corn export sales



Source: USDA-FAS

Figure 3. Soybean export sales



Source: USDA-FAS

Beyond that, expect lower prices through the latter part of summer, especially given the planting pace so far this spring. It looks like there will be plenty of acreage in play for harvest this fall, and that usually translates into plenty of bushels. More robust price recovery will take some time to develop, like the vaccine for COVID-19, it could take a year or two.

# Ag Decision Maker



# Strive to market fed cattle at optimum weight – even in tough times

By Lee Schulz, extension livestock economist, 515-294-3356, lschulz@iastate.edu

The COVID-19 pandemic has disrupted lives, economies and governments worldwide.

No one should downplay the pain, suffering and death those hardest hit have to endure. Importantly, we should commend all those on the front lines who are doing their best to control the virus and protect our lives.

Still, life and business go on. Farmers must manage their operations as best they can, no matter how turbulent times get.

Biology drives agricultural production. The calendar dictates when farmers need to do things. Farmers must plant and harvest on time. The window of opportunity for grain production activities is often very narrow. The marketing window can stretch over many months. That's because grains are storable.

The production and marketing windows for livestock are much narrower. Finished fed cattle are not storable. In a matter of days market-ready cattle can go from having top market value to being over fed and over finished with a lower value.

Estimated cattle slaughter for the week ending May 2, 2020 was 425,000 head, down 37% year over year (Figure 1). Over the past four weeks, total cattle slaughter has averaged 26% lower than last year, a decrease of 685,000 head which is more than one week of cattle slaughter at this time of year. The backlog of slaughter cattle is growing rapidly.

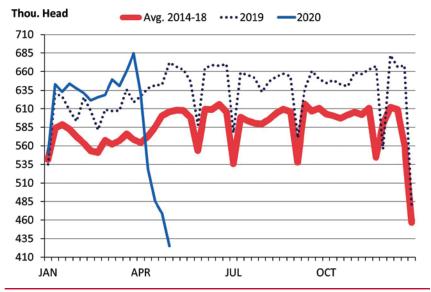
Therefore, producers, to the best of their ability, must maintain the flow of animals. A fed cattle slaughter slow down does, obviously and adversely, reduce the demand for fed cattle and is out of the control of producers. Having a market that will take finished cattle at a suitable date has become a concern.

In addition, current market prices, if even available, have left many cattle feeders searching for solutions to reduce their economic loss.

The Iowa Beef Center, Iowa State University Extension and Outreach beef specialists, University of Wisconsin Extension livestock program educators, and University of Wisconsin Department of Animal Science faculty have provided Considerations for Slowing Feedlot Cattle Growth due to the COVID-19 Pandemic, www.iowabeefcenter.org/information/SlowFeedlotGrowth-COVID-ISU-UWExt0420.pdf. These strategies would allow cattle to be held until they can be assigned a harvest date within a reasonable time frame.

For fed cattle ready or near ready for market, it is best to market these cattle when opportunities present themselves, even during crashing prices. As such, producers should stick with time proven production and marketing practices. Here are two specific examples, under the assumption that cattle can be marketed.

Figure 1. Cattle slaughter, federally inspected, weekly



Data Source: USDA-AMS & USDA-NASS. Compiled by the Livestock Marketing Information Center



Strive to market fed cattle at optimum weight - even in tough times, continued from page 4

# Always strive to optimize market weight

Sagging fed cattle prices fuel temptation to delay marketing, add days on feed and hope prices rebound. The catch with "hold and hope" is that it packs on pounds. Extra pounds boost beef supply into an already softening market.

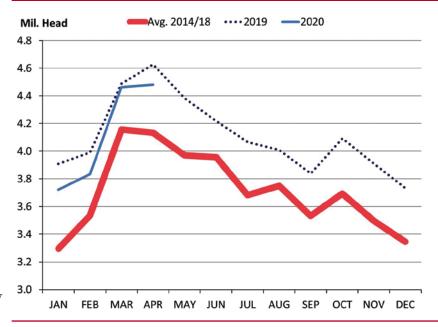
The economic decision point for the optimal weight at which to market fed cattle is where marginal cost of the last pound of gain equals marginal revenue from that last pound of gain. The concept is simple. Putting it into practice can be difficult because both marginal costs and marginal revenue change as the feeder grows. Constantly tracking the data takes time. Still, this decision point should always be the market weight target-even in rapidly fluctuating markets.

Marketing cattle later will boost feed costs as total pounds of feed fed climb. Cattle feeders typically talk about average cost of gain for the entire feeding period. It is calculated from the closeout. But average cost is worthless when trying to figure optimum market weight.

The important number is the marginal cost of gain as cattle approach market weight. Average cost of gain changes slowly, but marginal cost of gain changes rapidly. Marginal feed per gain, or pounds of feed for the next pound of gain, rises at an increasing rate as cattle near market weight. In addition to feed, interest and out-of-pocket yardage cost are also part of marginal cost.

Marginal revenue is the change in income from selling later. This is a moving target. Yes, there are additional pounds to sell. But heavier cattle may actually bring less if prices fall further while the cattle gain weight. Plus, carcass merit and value of the cattle can change with weight. Grid pricing, for example, consists of a base price with specified premiums and discounts for carcasses above and below a base or standard set of quality specifications. The United States Department of Agricultures's Agricultural Marketing Service reports premiums

Figure 2. Cattle on feed over 120 days, US total, monthly



Data Source: USDA-NASS. Compiled by the Livestock Marketing Information Center

and discounts weekly in its 5-Area Weekly Weighted Average Direct Slaughter Cattle – Premiums and Discounts Report. For the week of May 4th, the discounts for carcass weight ranged from minus \$15/cwt. to \$0/cwt. for 900 to 1,050 pounds and minus \$25/cwt. to minus \$10/cwt. for over 1,050 pounds.

As weights rise, percent of cattle grading Prime, Choice, Select and Standard can change. Yield grade may also change. The pen may have more yield grade 4's and 5's and fewer 1's and 2's. Premiums and discounts associated with various carcass traits vary across packers at any point in time as well over a period of time.

Currentness refers to whether producers are marketing cattle on a timely basis, or keeping them on feed longer. Keeping marketings current is generally positive to market prices. Too many producers "holding and hoping" beyond the optimum marketing weight can quickly cause an oversupply of both market-ready cattle and over-fed over-finished cattle, which drives prices down.

US feedlot inventories as of April 1 were 5.5% lower than a year earlier according to USDA's Cattle on Feed report of 1,000+ head capacity feedlots. But focusing only on total number on feed is insufficient.

Strive to market fed cattle at optimum weight – even in tough times, continued from page 5

Producers need to pay close attention to the supply of cattle that have been on feed for some time and thus will be available to come to market in the next 30-60 days. This is the supply that feedlots will draw upon when they offer cattle. As of April 1, the number of cattle that had been on feed at least 120 days was estimated at 4.481 million head, 3.2% lower than a year ago (Figure 2).

This is a sign that to begin April the market was relatively current. The ramp up in slaughter at the end of March helped fill the surge in consumer demand at retail stores and equally helped keep fed cattle supplies current. But, this must be maintained.

Currentness is a metric of leverage. Given similar fundamentals, the difference between extreme currentness and extreme uncurrentness can translate into a swing of \$5-\$10 per cwt. in fed cattle prices. Maybe more. Take September through December of 2015, for example, when there were an additional 433,750 head, on average, of cattle on feed more than 120 days in 1,000+ head capacity feedlots than there was the year prior. There were 685,800 head more when compared to 2009-2013 average. The supply of heavy fed cattle was even more pronounced, on a percentage basis, in feedlots with less than 1,000 head capacity according to the Iowa data, which is only state that reports these cattle on feed numbers.

In pursuing market incentives to delay cattle marketings and push cattle to heavier weights, a feedlot would be trading animal performance on animals currently on feed for the costs of replacing inventories with new animals. Potential gains from this tradeoff are limited. The incentive to hold can change abruptly with feed, feeder cattle and fed cattle prices.

## Cattle feeding risks rise, but returns could too

Economists typically talk a lot about risk and return tradeoffs. Whoever accepts the most risk should also have the opportunity to receive the greatest return. The cattle business is no different. It could be the quintessential example.

The supply of feeder cattle does vary with the cattle production cycle. Supply is easier to pin down than demand. Demand is the more important factor in determining market price. How much feedlot operators are willing to pay for feeder cattle comes from projected cost of gain and slaughter cattle price expectations, with the latter being the most important factor. As fed cattle prices collapsed, feeder cattle prices did too.

Feedlots may tend to want to delay placements at a time like this. Current feeding margins are deep in the red, even at the lower feeder cattle prices. However, even in a negative margin environment leaving pens empty and the feedlot at reduced capacity may not be an optimal decision. In the short-run, as long as revenue covers variable costs and leaves some income to cover part of the fixed costs, maintaining production loses less than letting facilities sit idle.

Another consideration may be equally important. The fed cattle market collapsed under unexpected COVID-19 pressure. Some other totally unexpected event could trigger at least a moderate rebound. If it does at some point in the near future, cattle feeders who buy feeder cattle at low prices may be well-positioned to make profits. That's a bit of a different spin on "hold and hope."

# Ag Decision Maker



#### Slight increases in cash rental rates in Iowa

By Alejandro Plastina, extension economist, 515-294-6160, plastina@iastate.edu

The most recent annual survey of cash rental rates for Iowa farmland shows that rates increased, on average, by 1.4% in 2020 to \$222 per acre. This is the fourth year of relatively stable rates at levels around 18% lower than the historical peak reached in 2013 at \$270 per acre (Figure 1). In comparison, corn and soybean prices received by farmers in Iowa declined by 49% and 45%, respectively, since mid-2013.

Iowans supplied 1,592 responses about typical cash rental rates in their counties for land producing corn and soybeans, hay, oat, and pasture. Of these, 43% came from farmers, 32% from landowners, 13% from professional farm managers and realtors, 6% from agricultural lenders, and 6% from other professions and respondents who chose not to report their status. Respondents indicated being familiar with a total of 1.6 million cash rented acres across the state.

AgDM File C2-10, Cash Rental Rates for Iowa 2020 Survey, www.extension.iastate. edu/agdm/wholefarm/pdf/c2-10.pdf, provides detailed results by county and crop. There was considerable variability across counties in year-to-year changes, as is typical of survey data, but 59 counties experienced increases in average rents for corn and soybeans. The report also shows typical rents for alfalfa, grass hay, oat, pasture, corn stalk grazing, and hunting rights in each district.

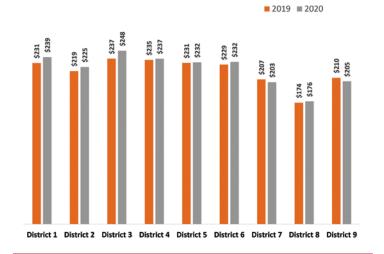
## Survey shows declines in increases districts

The survey was carried out by Iowa State University Extension and Outreach. Statewide, reported rental rates for land planted to corn and soybeans were up from \$219 per acre last year to \$222 in 2020, or 1.4%. This percent increase is about 1.5 times the increase in Iowa farmland values between March 2019 and March 2020 reported in surveys conducted by the Iowa REALTORS Land Institute and summarized in AgDM File C2-75, Farmland Value Survey

Figure 1. Average cash rents in Iowa, in \$ per acre (nominal)



Figure 2. Average cash rents by Crop Reporting District, \$ per acre



(REALTORS Land Institute), www.extension.iastate. edu/agdm/wholefarm/pdf/c2-75.pdf.

However, the 17.8% accumulated decline in rental rates since 2013 is in line with the cumulative 14.7 percent decline in land values over the same period reported in the Iowa Land Value Survey published by the Iowa State University Center for Agriculture and Rural Development, www.card.iastate.edu/land-

Slight increases in cash rental rates in lowa, continued from page 7

value/ or AgDM File C2-70, <u>Farmland Value Survey</u>, www.extension.iastate.edu/agdm/wholefarm/pdf/c2-70.pdf.

Different regions experienced different changes in cash rents: from a 4.6% increase in Crop Reporting District 3 (CRD) to a 2.4% drop in CRD 9 (figure 2). Northern and Central Iowa (CRD 1-6) have, on average, 21% higher cash rents than Southern Iowa (CRD 7-9).

### Rents for low quality land increased the most

Not all land qualities have seen their average cash rents increase proportionately. High quality land experienced a 0.4% increase, from \$256 per acre in 2019 to \$257 in 2020.

Medium quality land experienced a 1.4% increase, from \$220 per acre in 2019 to \$223 in 2020.

Low quality land experienced a 2.7% increase, from \$183 per acre in 2018 to \$188 in 2020.

#### Some renegotiations expected

Federal government payments from the Market Facilitation Program (MFP), and expectations of higher soybean exports to China by the time most cash rents were set (last September) were major factors supporting slightly higher cash rents for

2020 amidst stable to declining crop prices. However, as of May 2020, the implementation of the Phase 1 agreement between the United States and China is still under discussion; the coronavirus pandemic has brought worldwide economic activity to a brink of a protracted recession; and plummeting oil prices slashed the demand for biofuels. The resulting economic damage for Iowa in 2020 from this perfect storm has been estimated at roughly \$788 million for corn, \$213 million for soybean, over \$2.5 billion for ethanol production losses and \$347 million in losses due to falling ethanol prices, \$658 million for fed cattle, \$34 million

for calves and feeder cattle, and \$2.1 billion for hogs (<u>CARD Policy Brief 20-PB</u>, www.card.iastate.edu/products/policy-briefs/display/?n=1301).

The federal government has implemented multiple efforts to provide a temporary lifeline to the farm sector through the Coronavirus Food Assistance Program (CFAP), the Paycheck Protection Program (PPP), the Economic Injury Disaster Loan (EIDL), the Economic Impact Payment (EIP), and other programs authorized by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) (See COVID-19 Resources compiled by the ISU Center for Ag Law and Taxation, www.calt.iastate.edu/covid-19-resources). However, these valuable programs are not expected to make corn and soybean farmers whole, and the current outlook suggests that some farmers would likely struggle to honor the 2020 cash rental rates agreed upon back in September 2019. As a result, some renegotiations are to be expected.

#### **Setting rents for next year**

Survey information can serve as a reference point for negotiating an appropriate rental rate for next year. However, rents for individual farms should be based on productivity, ease of farming, fertility, drainage, local price patterns, longevity of the lease and possible services performed by the tenant.

Figure 3. Prices received in Iowa for corn and soybean, \$ per bushel \$18 AUG 2012, \$16.80 \$16 JUL 2013, \$15.40 MAY 2014, \$14.70 \$14 \$12 -50% \$10 AUG 2012, \$7.89 \$8 JUN 2013, \$7.09 \$6 APR 2014, \$4.76 \$2 JAN 2020 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 Source: A. Plastina's calculations based on USDA NASS data

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Slight increases in cash rental rates in lowa, continued from page 8

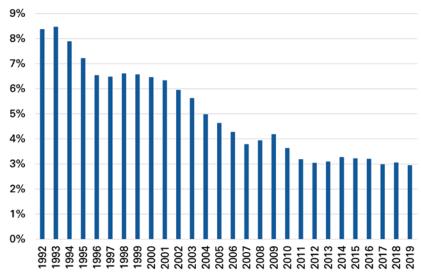
Two major factors with the potential to influence future cash rents are crop prices and land values, and they both suggest that absent any major change in the current outlook, cash rents might decline in 2021.

Corn and soybean prices received in Iowa peaked in August 2012 at \$7.90 and \$16.80 per bushel, respectively. In March 2020, corn and soybean prices received by farmers in Iowa averaged \$3.64 and \$8.43 per bushel and have respectively accumulated a 54% and 50% decline from their peak values (Figure 3). Due to current and projected low crop prices, profit margins in corn and soybean production on cash rented acres are expected to remain very tight to negative for a seventh consecutive year, and tenants will likely be using production on the service of the s

year, and tenants will likely be using profits generated in owned land to cover any negative profit margins on rented land.

The second major factor affecting cash rents is the return on investment for landowners. Figure 4 shows the evolution of the ratio of average cash rents to average land values in Iowa. It suggests that the average return on investment for landowners who cash rent their land to operators has followed a declining trend since the early 1990s, and it has stabilized at around 3% after 2010. Note that this ratio does not measure net returns because ownership costs, such as real estate taxes, are not taken into account in its calculation. However, it is indicative that landowners (whose goal is to obtain a reasonable rate of return on their real estate assets) will likely be reticent to accept lower cash rents in the future unless land values continue to decline. However, in a scenario of historically low and possibly declining interest rates, the opportunity cost

Figure 4. Ratio of average cash rent to average land value in lowa, 1992-2019



Source: A. Plastina's calculations based on Iowa Farmland Value Surveys and Cash Rental Rates for Iowa Surveys

for landowners would decrease and even lower rates of return on farmland might become acceptable.

Other resources available for estimating a fair cash rent include the AgDM Information Files Computing a Cropland Cash Rental Rate (C2-20), Computing a Pasture Rental Rate (C2-23) and Flexible Farm Lease Agreements (C2-21). All of these fact sheets are on the Ag Decision Maker Leasing page, www.extension.iastate.edu/agdm/wdleasing.html, including decision tools (electronic spreadsheets) to help analyze individual leasing situations.

For questions regarding the cash rent survey, contact the authors. For leasing questions in general, contact a farm management field specialist in your area, www.extension.iastate.edu/ag/farm-management. An online tool to visualize the cash rents by land quality in each county by year, and compare trends in cash rents for a county versus its CRD and the state average is available, www.card.iastate.edu/tools/ag-risk/cash-rental-rates.

#### **COVID-19 Resources**

While in-person events remain on hold, ISU Extension and Outreach, including Ag Decision Maker, remains committed to serving Iowans. A few resources are included below, and more will be added as needed to the <a href="AgDM Blog">AgDM Blog</a>, https://blogs.extension.iastate.edu/agdm/covid19/, <a href="printable-list-of-resources">printable list of resources</a>, https://blogs.extension.iastate.edu/agdm/files/2020/04/Link-list.pdf

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Iowa State University, https://web.iastate.edu/safety/updates/covid19

ISU Extension and Outreach, www.extension.iastate.edu/disasterrecovery/recovering-disasters

ISU Center for Agricultural Law and Taxation, www.calt.iastate.edu/covid-19-resources

ISU Extension and Outreach Human Sciences, Finding Answers Now,

www.extension.iastate.edu/humansciences/disaster-recovery

ISU Extension and Outreach Agriculture and Natural Resources Specialists,

www.extension.iastate.edu/ag/anr-staff-directory

Questions regarding on-farm decisions on crop and livestock farms are often unique to the needs of the individual operation. Your extension specialists remain available during this time.



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#### **Internet Updates**

The following Information Files and Decision Tools have been updated on <a href="www.extension.iastate.edu/agdm">www.extension.iastate.edu/agdm</a>.

Farm Bill: Terms to Know – A1-30 (6 pages)

**Evaluating Organic Transitions at the Field Level** – A1-96 (Decision Tool)

Commonly Used Grain Contracts – A2-73 (5 pages)

Estimating the Number of Field Days Required – A3-28 (Decision Tool)

Essential Worker Status Documentation: An Option to Facilitate Travel in the COVID-19 Environment – C1-85 (3 pages)

**Crop Share Lease Analysis** – C2-30 (Decision Tool)

#### **Current Profitability**

The following tools have been updated on <a href="https://www.extension.iastate.edu/agdm/info/outlook.html">www.extension.iastate.edu/agdm/info/outlook.html</a>.

Corn Profitability – A1-85

Soybean Profitability - A1-86

Iowa Cash Corn and Soybean Prices - A2-11

Season Average Price Calculator – A2-15

Ethanol Profitability – D1-10

Biodiesel Profitability – D1-15

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